

WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

- (51) International Patent Classification 7: , C07D 211/18, A61K 31/445, C07D 211/26, A61P 11/06
- (11) International Publication Number:

WO 00/31033

A1

(43) International Publication Date:

2 June 2000 (02.06.00)

(21) International Application Number:

PCT/EP99/08554

(22) International Filing Date:

8 November 1999 (08.11.99)

(30) Priority Data:

ú

60/109,293

20 November 1998 (20.11.98)

- (71) Applicant: F. HOFFMANN-LA ROCHE AG [CH/CH]; 124 Grenzacherstrasse, CH-4070 Basle (CH).
- (72) Inventors: HIRSCHFELD, Donald, Roy; 62 Dalma Drive, Mountain View, CA 94041 (US). KERTESZ, Denis, John; 459 Victory Avenue, Mountain View, CA 94043 (US). SMITH, David, Bernard; 218 West 40th Avenue, San Mateo, CA 94403 (US).
- (74) Agent: BRAUN, Axel; Grenzacherstrasse 124, CH-4070 Basle (CH).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: PIPERIDINE CCR-3 RECEPTOR ANTAGONISTS

$$X^{-}$$

Ar-(F)-(E)-CR³R⁴-(CHR)_m
 T
 R^{1}
 U
 Q -Ar¹

(i)

(57) Abstract

This invention relates to certain piperidine quaternary salts of formula (I), that are CCR-3 receptor antagonists, pharmaceutical compositions containing them, methods for their use and methods for preparing these compounds.